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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Groz Application No.: 10/043,071 Filed: 1/8/2002 Title: Method and system for increasing expected rate of return and maximum payout in a game with one or more players Attorney Docket No.: MG022704USNP	Art Unit: 3714 Examiner: Matthew D. Hoel

Commissioner for Patents
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Alexandria, VA 22313-1450
Via fax to Matthew Hoel, 571 273 5961
12 pages total

DECLARATION UNDER 37 CFR 1.132

Dear Sir:

In response to the Office Action of April 30, 2008, please consider the attached declaration by Tom Bakos, FSA, MAAA. Said declaration is submitted under 37 CFR 1.132 as evidence to traverse the rejection of current claim 42.

Respectfully Submitted,

June 3, 2008
Date

/Mark Nowotarski/
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ACTUARIAL OPINION

Date Prepared: May 29, 2008

Prepared By: Tom Bakos, FSA, MAAA

Services Provided For: Mark Nowotarski as patent agent for patent applicant Marc Michael Groz, New York, NY

Requested Service: Address the specific questions (as noted in Limitations and Reliances section) raised with respect to the U. S. patent application #10/043,071 in a non-final office action letter dated 4/30/2008.

Qualifications

I am a Fellow of the Society of Actuaries (FSA) and a Member of the American Academy of Actuaries (MAAA) and am qualified, per Precept 2 of the Code of Professional Conduct (as adopted by all U. S. based actuarial organizations), to render the actuarial opinion contained herein.

I am an independent actuarial consultant. I have no conflict of interest with any of the parties otherwise related to any of the patents or patent applications referred to in this opinion.

Limitations and Reliances

This opinion is directed at responding to the following three specific questions framed by Mark Nowotarski, the patent agent representing the inventor Marc Michael Groz:

1. Does the reference Nilssen (U.S. patent 5,083,784) teach a "payment augmentation module" as defined in our specification?

2. Does the reference Lange (U.S. patent 6,321,212) teach the characterization, issuance and selling of a lottery backed security as we have defined "lottery backed security" in our specification?

3. Does the reference Adao e Silva (U.S. provisional application 60/254,053) teach all of the elements of steps (f) and (i) of our current claim 42?

These questions were drawn from the patent examiner's rejection of amended claim #42 in his 4/30/2008 non-final Office Action letter related to patent application #10/043,071 (**Groz**). See

paragraph #4 of that letter. For reference, the current wording of said claim 42 is shown in an attachment to this opinion.

Mark Nowotarski provided information necessary for me to review in order to form an opinion in this matter. This information included:

- The examiner's non-final rejection letter dated 4/30/2008 noted above;
- Copies of the Groz patent application, 10/043,071, and the three patents or patent applications referenced in the questions above.

I have read and understood the Groz patent application (#10/043,071) and the patents and patent applications referenced in the questions to the extent necessary to form an opinion on the specific subject matter of the questions I have been asked to consider.

Analysis and Opinion

The questions will be addressed in the order stated above.

1. Does Nilssen (5,083,784) teach a "payment augmentation module"?

Opinion Summary

No. In my opinion a "payment augmentation module" is not required, present, or taught in the Nilssen invention.

Discussion

Groz

A Payment Augmentation Module (**PAM**) as defined and used in Groz is a ***process*** the application of which results in "the creation and administration of financial instruments linked to gaming or other events ..." [Groz, ¶0021]. Thus, a **PAM** is not, itself, a financial instrument.

The **PAM** ***process*** has the following characteristics as described in Groz:

- It is a process implemented in software and hardware [Groz, ¶0022] and Fig. 1 shows it to be a process similar to a Game Playing module or an Investment Management Module (i.e. a process rather than a financial instrument).
- Part of the application of the process creates financial instruments linked (**FILs**) to external events such as games of chance [Groz, ¶0059].
- The existence of **FILs** provides a hedging tool [Groz, ¶0060] that can be used by the "gaming industry" or other entities to facilitate the offering of fixed prizes larger than would otherwise be possible [Groz, ¶0059].
- The process (through the creation of **FILs**) is a method to transfer or manage financial risk, wherein financial risk means the possibility that a guaranteed payout will be greater

in any gaming cycle than the game revenue paid into the game during that cycle [Groz, ¶0007 & ¶0059 - ¶0060] (see following description).

Inherent in the description of the types of games played (e.g. in Step 5 of Fig. 3 of the Groz drawings) is that a fixed payout is guaranteed if the game is won. Examples provided in the Groz specification include a casino game like blackjack [Groz, ¶0062] or a state lottery [Groz ¶0063 &0064] with a fixed payout. The amount of the fixed payout for winning may be greater than the total amount of revenue paid into the game in a single cycle of play thereby creating financial risk to the entity organizing the game.

In a typical state lottery the grand prize payout amount for winning is dependent on lottery revenue and increases the more cycles the game is played without a grand prize winner. The grand prize payout is, typically, never more than the revenue paid into the lottery. However, even a typical state lottery has examples of fixed payouts for specific winning combinations of numbers in each game cycle which are independent of the revenue paid in to the lottery during that cycle.

The **PAM** process, therefore, clearly relates to games in which the payout in any given cycle of play may be greater than the total amount of revenue paid into the game during that cycle. Therefore, the entity running the game or the entity with the financial obligation to make the winning payouts has financial risk. The nature of this financial risk is that the payout for winning in a cycle of play may be more than the total revenue paid into the game in that cycle of play or, cumulatively, through that cycle of play.

A lottery backed security (**LBS**) is an example of a **FIL** provided in the Groz specification [Groz, ¶0060]. Per the Groz specification an **LBS** is a security wherein the interest paid to the investor or purchaser of the **LBS** is linked to the outcome of one or more lottery games. For example, the interest rate might be 200 basis points higher if the game is lost than if the game is won [Groz, ¶0070-0071]. This 200 basis point spread would be used by the entity issuing the **LBS** and financially liable for the lottery payout to fund the lottery payout if the lottery is won in a play cycle. Effectively, through issuance of the **LBS**, said entity has passed off the lottery risk to the **LBS** purchaser[1].

Nilssen

In Nilssen, lottery tickets are sold and revenue from such sales is invested ['784, col. 1, lines 54-56] to produce, in effect, an investment account. No method is described in Nilssen to provide a financial instrument linked (**FILs**) to external events as in Groz. The only financial instrument described in Nilssen is the investment account funded by lottery ticket sales which produces, in total, "a substantially continuous flow of profits" ['784, col. 1, lines 56-58].

[1] Clearly, the amount and nature of the lottery risk would dictate the amount and structure (i.e. interest rate spread) of **LBS FILs** required to cover the risk. In the example used in the specification (Groz, ¶0072] it is assumed that the odds of winning a multi-state lottery are 10 to 1 against – meaning that, on average, there would be 10 cycles with no winner for every 1 cycle with a winner. Thus, in the example, a bond would pay 20 basis points more 10 times for a total of 200 basis points and 180 basis points less 1 time – on average. Therefore, for a willingness to accept the financial risk in this example bond holders would average a 20 basis point greater return over a n 11 year period.

Nilssen, therefore, does not describe an essential feature of a **PAM**: the creation of **FILs**, wherein an **LBS** is an example of a financial instrument created for managing or transferring financial risk.

Basically, what Nilssen describes is a method to "avoid the extremely high transaction costs associated with periodic payments of a relatively modest amount of income to the holders of each of the numerous uniquely coded lottery tickets" ['784, col. 2, lines 62-65]. In effect, Nilssen describes a method by which only one or a few of the original lottery ticket purchasers, chosen through some random process, receive in each interest payment cycle all of the actual interest earned by the investment account in that cycle ['784, col. 1, line 66 – col. 2, line 4].

In Nilssen, therefore, there is no risk (as there is in Groz) to the entity making the payments that the total payments will be greater than the revenue available (i.e. the actual interest earned) to make the payments. This risk is an essential characteristic of the payment augmentation module **(PAM)** in Groz and it is not present in Nilssen.

In fact, in Nilssen the funding of a "particularly high pay-out" or "extra large prize" is funded by "reduced pay-outs" to other winners ['784, col. 4, lines 13-21] during the payout cycle not by a **PAM** or payout augmentation module as described in Groz.

Essentially, Nilssen describes a method by which interest actually earned on an investment account created by "lottery ticket" sales is randomly paid to the ticket holders who contributed capital to that interest bearing account. In Nilssen so-called lottery ticket holders own a piece of that investment account ['784, col. 4, lines 26-31] and their lottery tickets have value from cycle to cycle.

"Lottery ticket" as used in Nilssen has a different meaning than "lottery ticket" used in Groz. In Groz, "lottery ticket" [Groz ¶0014] means a 'token" which has value for gaming purposes meaning, as is commonly understood, a value only for a cycle of play. The capital value of a lottery ticket in Groz is put at risk in a game of chance. In Nilssen the lottery ticket represents capital ownership of a portion of the value of an account and is never put at risk in a game of chance.

Opinion

In my opinion Nilssen (US 5,083,784) neither describes nor teaches a "payment augmentation module" (PAM) as described in the Groz specification and as used in claim 42. A PAM in Groz is a process which includes the following characteristics:

- **It creates financial instruments linked (FILs) to external gaming events;**
- **which are used to transfer or manage game risk; and**
- **which make possible the ability to pay prizes in any game cycle in excess of the game revenue paid in said game cycle.**

These characteristics are neither required nor present in any process described in the Nilssen patent ('784). For example, the "game" described in Nilssen never puts at risk more than the actual amount of interest earned in any cycle of play.

2. Does Lange (6,321,212) teach the characterization, issuance and selling of a lottery backed security?

Opinion Summary

No. In my opinion the examiner inappropriately equates the financial instruments described in Lange ('212) to lottery backed securities.

Discussion

Groz

Reiterating some content from the above discussion, a lottery backed security (**LBS**) is defined by Groz to be an example of a financial instrument linked to external events (**FILs**) that is specifically "designed to help insurers and reinsurers to hedge the risk they incur when they guarantee a prize" [Groz, ¶0059]. The "prize" is clearly intended to reference the payout associated with winning a game of chance. Specifically, an **LBS** is a security wherein the interest paid to the investor or purchaser of the **LBS** is linked to the outcome of one or more lottery games.

Therefore, the essential characterizations of an **LBS** include, at least, the following:

- designed as a hedge against financial risk associated with games of chance (such as a lottery); and
- a hedge that allows larger prizes than would otherwise be possible (Groz, ¶0059].

Lange

As quoted by the examiner from '212, the purpose of the '212 is to hedge against events of economic significance ['212, col. 6, lines 48-52]. Lange in '212 defines events as being of economic significance if an investor or trader is not economically indifferent to the outcome of the event, even if the investor or trader is not invested in or traded a contingent claim related to the event ['212, col. 6, lines 55-59].

The examiner jumps to the conclusion that a lottery payout is an event of "economic significance" as that term is used in '212. However, Lange ('212) makes a clear distinction between *events of economic significance* and *games of chance* ['212, col. 10, lines 34-42]:

> *The present invention also differs from electronic or parimutuel betting systems disclosed in the prior art (e.g. U.S. Pat. Nos. 5,873,782 and 5,749,785). In betting systems or games of chance, in the absence of a wager the bettor is economically indifferent to the outcome (assuming the bettor does not own the casinos or the racetrack or breed the racing horses, for example). The difference between games of chance and events of economic significance is well known and understood in the financial markets.*

The financial instruments Lange ('212) describes are, therefore, very specifically not designed as a hedge against financial risk associated with games of chance but, rather, as a hedge against distinctly different "events of economic significance".

Clearly, by events of economic significance '212 is referring to non-gaming events like "corporate actions or announcements" such as an earnings announcement ['212, col. 51, lines 18-24] or "the number of oil rigs currently deployed in domestic U.S. oil production" ['212, col. 53, lines 2-4].

Since '212 does not include financial risk associated with games of chance in its definition of "events of economic significance", it could not possibly disclose the characterization of a lottery backed security (**LBS**) which by design is a hedge against financial risk associated with games of chance. Indeed, since Lange ('212) does not anticipate and purposely excludes games of chance from his invention's scope, his invention does not anticipate the need for a security like an **LBS** and, therefore, could not possibly teach its issuance or its selling.

Additionally, the examiner expresses the opinion that "a large lottery payout of possibly tens of millions of dollars is certainly an event of economic significance". This is not correct, given the meaning of the expression "events of economic significance" intended by Lange ('212), from the point of view of the entity running the lottery which is the only point of view of concern in Groz. Typically, the lottery grand prize will be much less than the revenue paid into the lottery. Therefore, the entity running the lottery has no financial risk with respect to a grand prize and the lottery payout is of no economic significance. Therefore, hedging a financial risk associated with a variable lottery grand prize payout related directly to the lottery revenue received is not necessary.

Even in the first cycle of a multi-state lottery such as Powerball when the grand prize payout is initially fixed at a minimum ($15,000,000), there is little or no financial risk to the entity running the game because:

- the odds of winning the grand prize are 1 in 146 million (and the minimum payout is $15 million);
- typically, there would be more than enough players in the initial cycle to cover the fixed minimum grand prize payout (e.g. the Powerball website indicate that lottery sales in a cycle range from $16 - $200 million, clearly varying in relation to the projected jackpot amount); and
- the size of the game allows the lottery officials to accumulate assets large enough to cover any shortfall of ticket sales from the minimum prize guarantee in the first cycle.

Opinion

In my opinion it is clear that Lange (U.S. Pat. No. 6,621,212) does not teach the characterization, issuance, or selling of a lottery backed security (LBS) as LBS is defined in the Groz specification or as used in Claim 42.

Lange specifically excludes games of chance from its definition of events of economic significance. None of the financial instruments Lange describes, which are designed to hedge against events of economic significance, suggest or teach use of a financial instrument as a hedge against games of chance which is, specifically, what an LBS is designed to do.

3. Does Adao e Silva (provisional application 60/254,053) teach all of the elements of steps (f) and (i) of claim 42?

Opinion Summary

No. In my opinion Silva does not teach all of the elements of step (f) and (i) of Claim 42.

Discussion

Groz- step (f) of Claim 42

In Groz, a "residual value" is defined as the portion of a game player's "financial consideration" that is allocated to purchase assets rather than to play [Groz, ¶0011]. The "financial consideration" is understood to be the total amount the player has allocated to participate in the game.

Of the portion allocated to play (i.e. 1 minus the residual amount), only a portion will be utilized to pay prizes. The balance will be retained by the entity running the game and utilized to cover the expenses, may be paid to charitable or governmental entities per agreements or as required by law, or used to cover risk [Groz, ¶0051].

The residual value in Groz expressed as a percentage can range from a number close to 0% to a number up to close to 100% [Groz, ¶0029].

Therefore, the financial consideration consists of three parts as follows:

- a portion paid into the prize pool;
- a portion used to purchase assets for the benefit of the game players; and
- a portion retained by the entity running the game.

Step (f) of claim 42 refers to the portion of the financial consideration used to purchase assets (bullet #2 above) with said assets having the following characteristics:

- a positive expected return; and

- said expected return is large enough such that the value of said assets at the end of a period of time is greater than said financial contribution less the portion paid into the prize pool.

The indication, therefore, is that the assets purchased are expected to accumulate over a period of time to an amount large enough to equal or exceed the amounts allocated to purchase said assets (bullet #2 above) plus the amount retained by the entity running the game (bullet #3 above).

Silva – relative to step (f)

As noted by the examiner, in Silva ('053) a step exists which allocates a "predetermined percentage" of each bet to an investment to benefit the game player. However, Silva's step can be distinguished from Groz's step (f) Claim 42 as follows:

- Silva's "predetermined percentage" (nominally similar to Groz's "residual value") is limited in the preferred embodiment of the Silva invention to an amount not greater than, effectively, the amount retained by the entity running the game[2].

  In Groz, the residual value used to calculate "a second portion" in step (f) of Claim 42 can range from near 0% to near 100% and is unrelated to the amount retained by the entity running the game.

- The above is an important distinction since Silva ['053, page 2, line 19] indicates that gamers belong to a membership club in which the games would be played. Therefore, game players would have, at least, a membership relationship with the entity running the games and, maybe, a financial interest (as a result of said membership) in the amount retained by said entity in running the games.

  Per Silva it is a portion of what would otherwise be the amount retained by the entity running the game that would be invested. It is clear from Silva that a game player's entire financial consideration is allocated to play and that a player is effectively getting back a portion of his losses (if he loses) through the Silva invention ['053, page 2, line 8-12]. In one embodiment Silva anticipates that investments would only be made on behalf of losers ['053, page 3, lines 13-14]. In effect, in Silva the bettor is getting back a portion of the amount retained by the entity running the game which in Silva is a membership club of some sort.

  In Groz, step (f) of Claim 42 "a second portion", determined by multiplying the residual value by the financial consideration, is used to purchase assets whether the game player wins or loses and said "second portion", in effect, is not wagered at all – unlike in Silva. Said "second portion" in Groz is separate and distinct from the portion of the financial consideration retained by the entity running the game [See, for example, Groz, ¶0030].

- Silva indicates no expectations regarding the investment performance of funds invested on behalf of the gamer. Silva indicates only that the investment is intended to "help ensure that a gamer never experiences a total loss" ['053, page 4, lines 15-16].

[2] See Silva ('053) page 3, lines 20 – page 4, line 1. In the example given, the "payoff" is equivalent to Groz's prize pool and is equal to 50% of the financial consideration. In Silva, this means that the "predetermined percentage" which is invested can be no greater than 50%.

In Groz, step (f) of Claim 42 an investment is established such that its expected value over a period of time is large enough to return to the game player an amount at least equal to the assets invested plus the amount retained by the entity running the game.

Therefore, in Groz the player indirectly receives an amount at least equal to the amount retained by the entity running the game in the form of interest earned on the assets set aside and not wagered in the game. This contrasts with Silva ('053) wherein the player directly receives a portion of the amount retained by the entity running the game which is used to purchase assets on the gamer's behalf.

Opinion- relative to step (f) of Claim 42

In my opinion Silva (U.S. provisional application 60/254,053) does not teach all of the elements of step (f) of Claim 42. In particular, Silva does not teach:

- **Allocating a portion (from near 0% to near 100%) of a financial consideration to investments rather than allocating it to play in a game of chance; or**
- **Setting a specific expectation as to the investment return experienced over a period of time.**

Groz – step(i) of Claim 42

Step (i) of Claim 42 explicitly commits to providing the market value of assets purchased on behalf of the game players at the end of the period of time specified in step (f). Said period of time is the period of time during which the assets purchased by investing "a second portion" accumulate to at least the sum of the financial consideration: (1) allocated to the asset purchase; plus (2) the amount retained by the entity running the game.

Silva – relative to step (i)

A principle purpose of Silva appears to be to create a "gaming investment system" ['053, page 2, line 13] which is designed to encourage individuals to play ['053, page 2, line 5-6] rather than to produce any particular investment result.

In effect, the Silva invention results in individuals "investing and saving more money by playing games in accordance with the invention, than if they had not done so" ['053, page 2, lines 1-4]. Again the Silva invention is aimed at causing individuals "to invest more money than if they were not given the incentive of the thrill of gambling to initiate the activity" ['053, page 2, lines 16-18].

Silva does not teach any method by which funds are committed for payout to token owners at the end of a period of time with the expectation of a specific investment result. Indeed, Silva indicates that there may be penalties assessed for early withdrawal ['053, page 3, lines 16-17 and page 5, lines 22] and that withdrawals without penalty would be allowed after a penalty period ['053, page 5, lines 20-22].

The only indication that Silva has in mind a specific period of time at which the current market value of assets would be made available is the reference to the 'Yellow Fund" as a college

investment fund. However, it is a stretch to interpret investment in a college investment fund as a "commitment to provide the current market value of said assets at the end of said period of time" as described in Groz step (i).

In Groz, "said period of time" is defined as a single period specifically related to how long it would take the assets to accumulate to the expected value described in step (f). Typically, a college investment fund is funding towards a stream of college expense that begin when a student enters college and end at graduation. Therefore, withdrawals from a college investment fund can be expected to be made over a period of years not at the end of a specified period of time. In addition, a college investment fund may be used to fund the college expenses of more than one student. Therefore, withdrawals from such a college fund may be spread out over an even longer period of time.

Certainly, a person skilled in the art would recognize that investments can be liquidated for a cash value at any time. However, Silva does not describe any specific plan to make the asset values of the investments described available nor does he indicate any expectation of return.

Opinion – step (i) of Claim 42

In my opinion Silva (U.S. provisional application 60/254,053) does not teach all of the elements of step (i) of Claim 42. In particular, Silva does not teach:

- **a commitment to make the current market value of assets available at the end of a specified period of time; such that**
- **at the end of said specified period of time said market value is expected to at least equal to the sum of the financial consideration allocated to: (1) the asset purchase; plus (2) the amount retained by the entity running the game.**

Declaration

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

May 29, 2008

Date

Tom Bakos

Tom Bakos, FSA, MAAA
Consulting Actuary

Currently Amended Claim 42

42. (Currently Amended): A method for increasing the expected return of a game, said game comprising a large gaming prize, said large gaming prize being backed at least in part by a payment augmentation module, said payment augmentation module comprising:

- the characterization of a lottery backed security;
- the issuance of said lottery backed security; and
- the selling of said lottery backed security,

said method comprising:

a) offering to sell tokens to a plurality of players to participate in said game, each of said tokens having a price and a designated residual value;

b) receiving financial consideration from said players, said financial consideration being equal to the number of said tokens purchased by each of said players times said price of said tokens;

c) allocating a first portion of said financial consideration to a prize pool, said first portion being greater than zero, said prize pool to be distributed among winners of said game, and said prize pool being less than said large gaming prize;

d) conducting said game such that there is an outcome of said game wherein said outcome may comprise the designation of a portion of said tokens as winning tokens and said outcome may additionally comprise the designation of at least one of said winning tokens as a large gaming prize winning token;

e) awarding said prize pool to the owners of said winning tokens if said outcome comprises said designation of winning tokens and awarding said large gaming prize to the owners of said at least one large gaming prize winning token if said outcome comprises said designation of said at least one large gaming prize winning token, wherein at least a portion of said large gaming prize is paid by said payment augmentation module;

f) allocating a second portion of said financial consideration to purchase assets, said assets having a positive expected return over a period of time such that the expected value of said assets at the end of said period of time is greater than or equal to said financial consideration less said prize pool;

g) purchasing said assets with said second portion of said financial consideration;

h) assigning said assets to said tokens, said assignment to each token being in proportion to the price of each of said token times the residual value of each of said tokens;

i) committing to provide the current market value of said assets at the end of said period of time to the owners of said tokens.